

The Effect of M-Learning Approach on Students' Achievement in Higher Education

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Abstract: M-learning approach is widely used in school and other institutions or organizations all over the world. The article seeks to clarify the effect of mobile learning by applying its key concepts to learning experiences in higher education. In other words, it seeks to find out the effect of Mobile Learning approach on student's achievement and skill development. For this study, 40 samples were selected by purposive sampling technique. Two hypothesis were framed by the researcher for reaching the findings of the study. Experimental research method is use to clarify the objectives of the study. After data analysis, it was found that the hypothesis was significant in respect of data analysis and the hypothesis was rejected. The article concludes that there is substantial difference between the pre-test means and post-test means of student's achievement and skills in Higher Education on Mobile Learning approach.

Keywords - Mobile learning, Achievement, Design, Skills, Higher education, E-learning.

INTRODUCTION

The advance of mobile technologies have turned handheld devices a part of people's daily life, such as in communication and entertainment. Learning through mobile devices is the trend of digital learning field. Higher Education system is mostly related with new innovations and researches. The new innovations and researches are easily chalked out from e-learning materials. Mobile learning includes portable technologies and mobile contexts in e-learning society. **Mobile learning** or **m-learning** is "learning across multiple contexts, through social and content interactions, by using personal electronic devices". It is an educational system. Mobile learning supports, with the help of mobile devices, a continuous access to the learning process. M-learning is education via the Internet or network using personal mobile devices, such as handheld computers tablets and smartphones to obtain learning materials through mobile apps, social interactions and online educational hubs. It is flexible to allow students access to education anywhere, anytime. Mobile also makes delivering of many kinds of content possible (videos, slideshows, instructional guides, copy). As videos, slideshows and chat rooms become a greater part of learning, so the demand for mobile learning will only increase. Mobile learning can create a new dynamic for learners, as formal on-boarding programs can now be supplemented with on-the-job; instant-access learning chunks. Mobile learning provides a way for educational institutions to deliver knowledge and educational content to students on any plat form, anyplace and at the time of need. Students use mobile apps and tools to complete and upload assignments to teachers, download course instruction and work in online social groups to complete tasks. According to (Huang, Huang & Hsieh, 2008, p, 3), the environments in which the study of mobile learning has been conducted have some similar features with in previous studies.

These features include:

1. Enhancing availability and accessibility of information networks;
2. Engaging students in learning-related activities in diverse physical locations;
3. Supporting of project-based group work;
4. Improving of communication and collaborative learning in the classroom, and;
5. Enabling quick content delivery.

Mobile learning in Higher Education

The most sophisticated concepts for designing instruction in this context are identifying the technology, learner and learning material as well as mobile technology such as portable devices, handheld computers tablets and smart phones. It also involves identifying learners who are nomadic and able to understand and interpret learning materials. In general, mobile learning – or m-learning- can be viewed as any form of learning that happens when mediated through mobile devices, and a form of learning that established the legitimacy of 'nomadic' learners (Alexander, 2004). These are the developments that have made mobile devices strategic tools with the capacity to deliver higher education instruction in a way that was never anticipated when the first prototypes of these devices were designed and marketed. Designers can deliver successful higher education products to the present generation of learners, by means of a technology, distinctively adapted for its own personal (mostly social) purposes. This makes technology a particularly potent tool for the delivery and reinforcement of content that would otherwise be identified with the higher education "establishment". Devices "such as mobile phone and mp3 players have grown to such an extent over recent years and are gradually replacing personal computers in modern professional and social context" (Attewell & Savill-Smith, 2005). Modes of communication that were spontaneously developed by the younger generation have been subverted to serve the purposes of transmitting higher education. Such structural changes in the delivery of higher educational instruction add a powerful tool to the arsenal of available means that educators can use to make delivery more efficient, personal and culturally acceptable to those who pioneered these new modes of text delivery (Fullan, 2007). The extraordinary potential inherent in mobile devices, anticipate radical changes in the very structure of educational dynamics especially in the way in which people interact with one another in society.

The kind of informal learning through the use of mobile devices makes it an even more potent tool of educational communication than the customary forms and modes of traditional education. These revolutionary changes developed out of the unforeseen significance of human social life generally more “mobile”, creative and opportunistic, than the formal modes of traditional education.

Mohamed Osman M. El-Hussein and Johannes C. Cronje(2017) in his study “*Defining Mobile Learning in the Higher Education Landscape*” aimed to clarify the meaning of mobile learning by applying its key concepts to learning experiences in post-school education. The article concludes that knowledge in the modern world is transformed by the development of revolutionary technologies in society.

Jane Y.-K. Yau, Mike Joy and Stephan Dickert (2015) conducted a study “*A Mobile Context-aware Framework for Managing Learning Schedules – Data Analysis from a Diary Study*”. The study aimed to determine whether a diary approach could be used as a successful way of retrieving a) the user’s learning contexts, b) which learning contexts are significant for consideration within an m-learning application, and c) which learning materials are appropriate for which learning situation. The study suggests that the framework should include verification methods to counter against the possibility of students not adhering precisely to their planned learning schedules.

Jeff J. S. Huang, Stephen J. H. Yang, Yueh-Min Huang and Indy Y. T. Hsiao (2013) carried out in a research paper “*Social Learning Networks: Build Mobile Learning Networks Based on Collaborative Services*” aimed to focus on how to find suitable people to conduct interaction and how to form CoP (Communities of Practice) under social networks to support the collaborative learning model. The results indicated that Knowledge sharing attitude and System quality has a positive influence on the collaborative service platform to built Mobile Learning.

Hong-Ren Chen and Hui-Ling Huang(2006) in an article “*User Acceptance of Mobile Knowledge Management Learning System: Design and Analysis*” focused to the design of a mobile knowledge management learning system that encourages learners to acquire, store, share, apply and create knowledge. The experiment results indicate that (1) perceived easy to use can positively predict perceived usefulness by learners, (2) perceived easy to use and perceived usefulness can positively predict behavioral intention of the system acceptance.

OBJECTIVES OF THE STUDY

The following objectives were considered for the study

- To find out the effect of Mobile Learning approach on student’s achievement in Higher Education
- To find out the effect of Mobile Learning approach on student’s understanding and application Skill development.

HYPOTHESIS

H_1 . There is no significant difference between the pre-test means and post-test means of student’s achievement in Higher Education on Mobile Learning approach

H_2 . There is no significant difference between the pre-test means and post-test means of student’s achievement in Higher Education on Mobile Learning approach in respect of understanding and application skills.

METHODOLOGY

This study considers Quantitative approach for collection and interpretation of data. The present study based on Experimental research method and the Experimental design is Pretest-posttest design. It is the most popular and scientific research technique, which consist of analyzing the phenomena into their components.

Sample

The researcher selected 40 post-graduate students purposively for this study.

Variables

Independent Variable: Mobile Learning approach

Dependent Variable: Development of Student’s achievement and skills.

Strategy

Test – Teach – Test

Tool

Two basic tools were used for the study. Two scale on Mobile Learning. The scales constructed by Dr .A. Paul. Frist one was used as the pre-test and second one for post-test. The test was constructed by investigator.

Experimental Procedure

The experiment was conducted in three phases –

Phase-I Pre-test

After purposively selected the samples the researcher control the samples. Then a scale on Mobile Learning was produced for pre-test and thus pre-test was administered.

Phase-II Experimental Treatment

After pre-test the post graduate students were taught about Mobile Learning. Then provide them Mobile or Tab with well internet connection in the classroom and trained about Mobile Learning. The Intervention was extended over as period of 3 week for each class.

Phase-III Post-test

After completion the innovative instructional treatment post-test was administered. The result of post-test was compared with respective Pre-test result by 't' test.

Statistical Techniques Used

Mean, Standard Deviation (SD) and "t" test were applied to interpret and analyze the data.

RESULT AND DISCUSSION

Table – 1 Showing 't' test value between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach.

Testing of Hypothesis(H_0)- There is no significant difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach.

Test	N	Mean	SD	't' value	Level of significance
Pre-test	40	4.7	1.83	9.46	Significant at 0.01 & 0.05 level
Post-test	40	12.06	3.01		

Above table shows that there is substantial difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach. The post-test mean score of post graduate students is higher than the pre-test mean which is significant at 0.01 & 0.05 level. Thus the hypothesis "There is no significant difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach" is rejected.

Table – 2 Showing 't' test value between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach in respect of understanding and application skills.

Testing of Hypothesis(H_0)- There is no significant difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach in respect of understanding and application skills.

Test	N	Mean	SD	't' value	Level of significance
Pre-test	40	35.5	6.54	6.35	Significant at 0.01 & 0.05 level
Post-test	40	48.6	9.25		

Above table shows that there is substantial difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach in respect of understanding and application skills. The post-test mean score of post graduate students is higher than the pre-test mean which is significant at 0.01 & 0.05 level. Thus the hypothesis "There is no significant difference between the pre-test means and post-test means of student's achievement in Higher Education on Mobile Learning approach in respect of understanding and application skills" is rejected.

Major Findings

The major findings are –

1. The students at the pretest stage showed significant progress because they were exposed to an innovative method (m-learning) of learning.
2. There is positive gain learning because m-learning approach is helpful for development of various skills of the students.
3. Use of such technology helps in progress of English language.
4. Use of such technology helps in inculcating the habit of self learning in the learners.

CONCLUSION

The evolution of handheld portable devices and wireless technology has resulted in radical changes in the social and economic lifestyles of modern people. Mobile technology changes students' learning both inside and outside the classroom, any time and from anywhere. The fact is that convenience is everything in today's busy society and will continue to be in generations to come. M-learning opens so many doors to new technology and will continue to get more complex as the years go on. So many more opportunities are being given to get an education and to expand our knowledge. This is the greatest way to help people learn better.

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